Sandia Savings Bond Drive Now Underway

A GIRL WORLD — Mickey Sanchez (4812), his wife Colfita, and their five daughters: Carmela, 15, Melecita, 16, Theresa, 14, Diana, 12, and Linda, 11. Mickey buys U.S. Savings Bonds for his family's future. See article, page 4.

Annual U.S. Savings Bond drive at Sandia Labs will be conducted May 12-23, according to Charley Bild (3600), drive chairman.

Currently, some 85% of Sandia employees buy bonds through payroll deduction. Goal of the drive is to increase participation to over 90%.

All employees will be contacted during the drive and asked to review their participation.

"There are a number of compelling reasons that make Savings Bonds a more attractive investment than ever before," says Charley. "Nationally, Savings Bond sales are higher than at any time since 1945. Interest rate on Bonds is now 6% when held to maturity, and the interest earned is not subject to state or local taxes. Federal tax may be deferred until the Bonds are cashed — say, until retirement — and this can make Savings Bonds a very attractive investment."

At organization meetings and during solicitation, a number of U.S. Treasury publications will be available which outline other advantages of Savings Bonds for specific purposes such as college education for children. Here again, tax consideration makes the Bonds very attractive investments.

If you start buying a $25 bond each month in his or her name when your child turns two years old, you'll have $5906 accumulated at age 18 (assuming the 6% earning rate remains unchanged — it will not become less and it might go higher). More than $2000 of the total will be interest, but your child would report it on his or her income tax return and tax on that interest would likely be minimal.

Organizations which participate 100% in the drive will be recognized, Charley reports, as well as those which achieve 95% participation or make a 10% increase. Certificates will be issued after the drive.

"Beauty of the payroll deduction plan," Charley says, "is that employees may participate for as little as $1 per month or 25 cents weekly."

Members of the Savings Bond committee include Howard Viney (1130), Bob Gregory (2140), Arlin Pepmueller (3720), Bob Hepplewhite (4800), Randy Maydew (5620), Bill Wilson (8341), John Stiegler (9480), Ward Hunnicutt (9750), Bob McIntosh (6353) and John Shunny (3162).

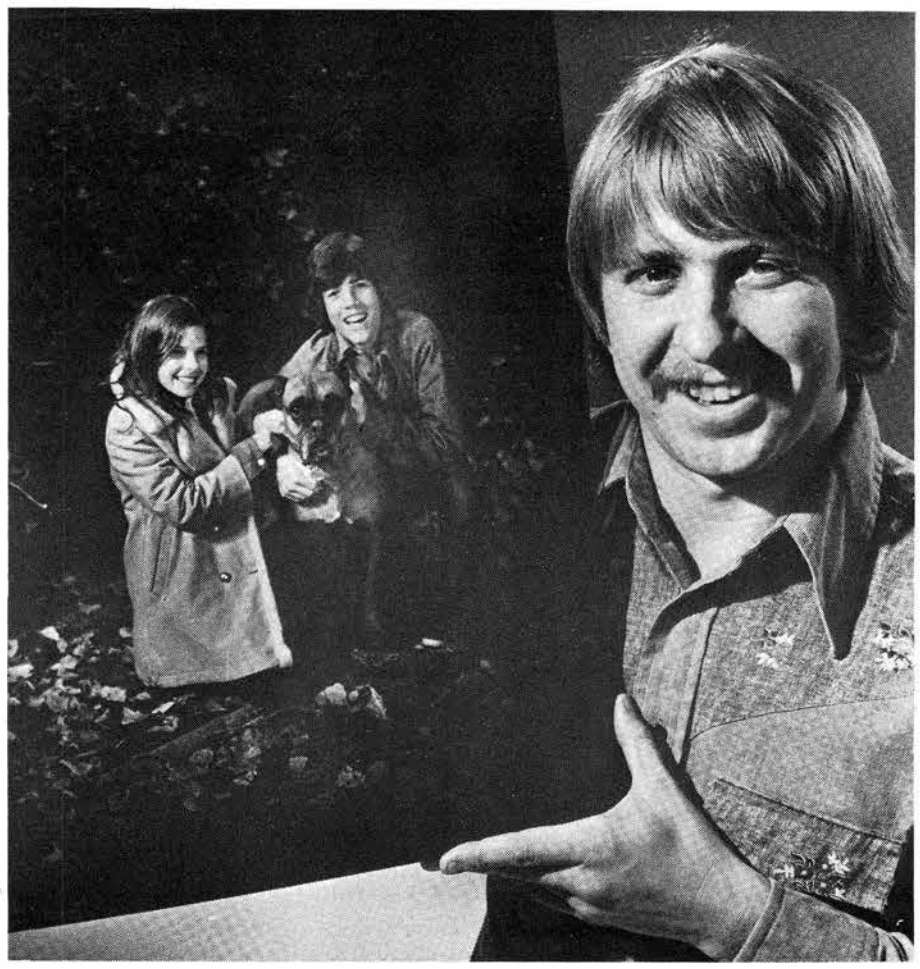
President Morgan Sparks is the Albuquerque chairman for this year's Savings Bond drive, and Glenn Fowler, VP/100, is state chairman.

DICK MALONE, a familiar face around Sandia, was promoted last week to the position of Sandia Area Manager for ERDA. Previously he had been Chief of the Administrative Branch, SAO. He's been with ERDA/AEC since 1952. Dick is a veteran of the Army and a survivor of Bataan.

LAB NEWS

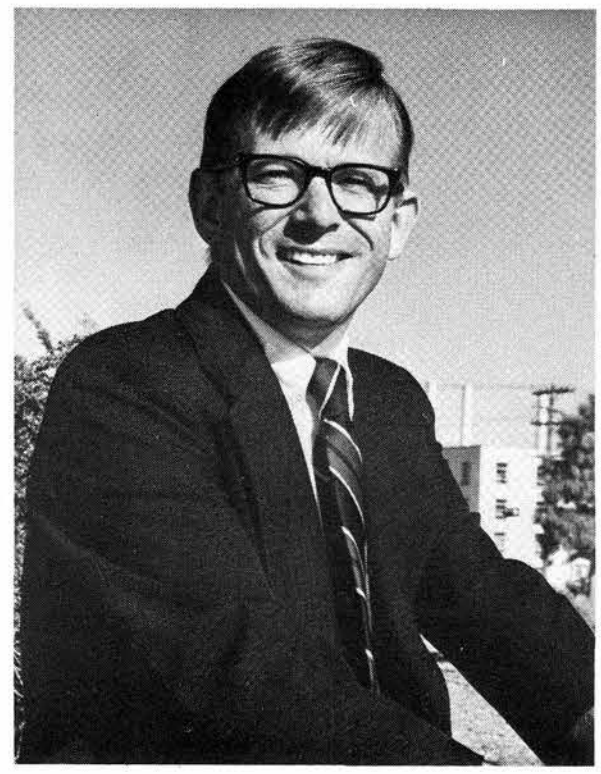
VOL. 27, NO. 10 MAY 16, 1975

SANDIA LABORATORIES • ALBUQUERQUE NEW MEXICO • LIVERMORE CALIFORNIA • TONOPAH NEVADA



A FIRST PRIZE for a candid color print went to Tom Zmiejko (9622) in the New Mexico Professional Photographers' State Convention. A photographer only 1-1/2 years, Tom entered six prints and had all six accepted. Here he holds winner, "The Trio."

Supervisory Appointment



JOHN WALTER to supervisor of Mechanical Design Division 2344, effective May 16. Since coming to Sandia in October 1969, John has worked on advanced component development and, more recently, on guidance and control sub-systems. He worked at LASL and ACF before joining the Labs.

At Stanford University John earned Bachelor, Master, and Engineer degrees with emphasis on mechanical engineering. His off-the-job interests include tennis, skiing and flying.

John and his wife Patricia have a daughter and three sons and live at 7004 Comanche Road, NE.

Credit Union Bulletin Board

As part of its normal audit procedure, the Supervisory Committee recently mailed statements to members with account numbers from 8000 to 9999. If your account number is in this series and you have not received your statement, please notify Joe Holdridge (4275), committee chairman.

Recreation Notes

FUN & GAMES

Sandia Bicycle Ass'n. — Don Bliss, 4-7609, has obtained a supply of reflective tape. It's suitable for sewing on jackets, hats, and the like, can be laundered, and comes in 7/8" width. Don has rolls of white, lime yellow, and red orange tape and is selling it at cost for a penny a foot.

* * *

Coronado Ski Club — Not too far from Purgatory, near Vallecito Lake, is Wilderness Trails Ranch — private cabins, horses, fishing, boating on the lake. The Club's Don Schroeder (2442) is working on a deal with the ranch under which a group of 20 or more can get lowered rates ($120 vs $173 for one week for an adult, with children 12 and under at even lower rates). The deal includes all meals, is aimed at certain dates — 1st or 3rd week of June, or any week between Aug. 24 and Sept. 24, and you don't have to go for a full week. Don is on 344-1011 and has a supply of brochures if you're interested.

* * *

Sandia Runners Ass'n. — The Road Runners continue to meet every Tuesday evening about 6:30 to offer a wide variety of running events. On the 20th, they meet at UNM on the field east of Johnson Gym; a 1-mile men's novice, 1/2-mile women's run for your life, and boys' and girls' events are among those scheduled. On the 27th they'll meet at Rio Grande Park, 3 blocks west of the pool, and a similar range of contests will be run. Show up to run or just to watch — you don't have to be a member.

LAB NEWS

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An Equal Opportunity Employer

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&
don graham ass't. editor

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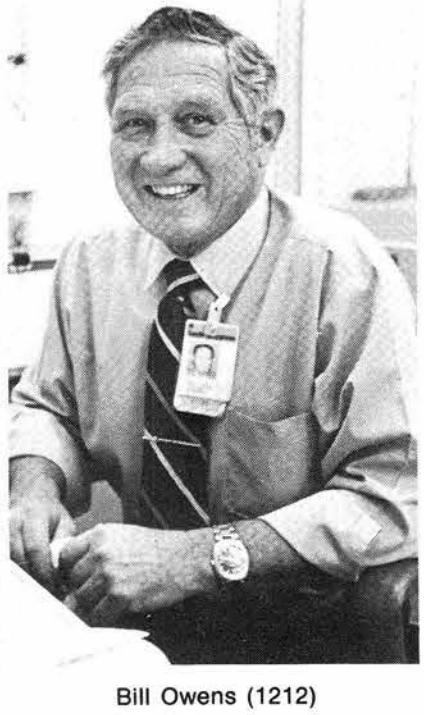
bill laskar does picture work
gerse martinez lends a hand
&
lorena schneider reports on livermore

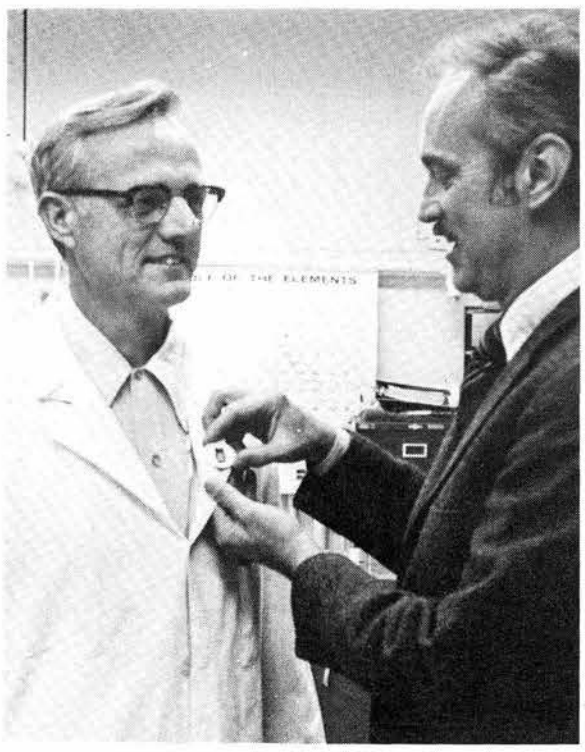
Retiring

Mack Milner (9735)

Barbara Wheelock (1130)



Bill Owens (1212)



NEW WISE OWL — Bob Meinken (8310), right, congratulates Ken Gels (8313), SLL's tenth and newest member of the Wise Owl Club. Sponsored by the National Society for the Prevention of Blindness, the Club recognizes those whose eyesight has been saved by safety glasses. In Ken's case, molten metal spattered onto the lens of his safety glasses during lab experiments.

Sympathy

To Mike Lovato (8257) on the death of his mother in Santa Cruz, Calif., April 5.

Speakers

Leroy Haggmark (8341), C.J. MacCallum (5223), and M.E. Riley (5211), "New Scattering Cross Sections for Electron Transport," American Nuclear Society Winter Meeting, Washington, D.C., Oct. 27-31.

Anton West (8314) and John Smugeresky (8312), "Effect of High Energy Rate Forging on Hydrogen Compatibility of Iron-Base Superalloys," Fall Meeting of the Metallurgical Society of AIME, Detroit, Mich., Oct. 21.

Pete Mattern and Walt Bauer (both 8334), and George Thomas (8313), "Implantation Damage in Vitreous Silica," American Physical Society Annual Meeting, Atlanta, Ga., Dec. 5-7.

Jim Bartel (8313) and E.F. Westran, Jr. (Univ. Michigan), "Fe_3O_4 Verwey Transition. Calorimetric Determination of the Effects of Concentration of Zn and Cd Dopants," 20th Annual Conference on Magnetism and Magnetic Materials sponsored by AIP, IEEE and AIME, San Francisco, Calif., Dec. 3-6.

Ben Benedetti (8113), "Dynamic Stability of a Beam Loaded by a Sequence of Moving, Multi-Axle, Mass Vehicles," International Conference on High Speed Ground Transportation, Arizona State University, Tempe, Ariz., Jan. 7-10.

Jack Dini and Rudy Johnson (both 8312), "A Case History of a Joining by Plating Application," 11th Airlines Plating Forum sponsored by American Electroplaters' Society, San Francisco, Calif., Feb. 3-6.

Gerry Rohwein (8416), "Trace I, A Transformer Charged Electron Beam Generator," Particle Accelerator Conference jointly sponsored by IEEE, National Bureau of Standards and American Physical Society, Washington, D.C., March 12-14.

Tom Brumleve (8184), "Solar Energy Systems for Central Station Power Generation," WATTec Conference sponsored jointly by 18 professional societies including ANS, ASME, ASM, ASHRAE, IEEE, AICHE, Knoxville, Tenn., Feb. 20-21.

Gertrude Williams (8212), "Federal Laws Prohibiting Discrimination and Ways Affirmative Action Fits Into Equal Employment Opportunity," Pleasanton Rotary Club, March 20.

Rudy Johnson and Jack Dini (both 8312) and Harry Saxton (8314), "Influence of Sulfur on the Properties of Electrodeposited Nickel," American Vacuum Society Conference on Structure-Property Relationships in Thick Film and Bulk Coatings, San Francisco, Feb. 10.

LIVERMORE NEWS

VOL. 27, NO. 10 LIVERMORE LABORATORIES MAY 16, 1975

SLL Performing Basic CTR Research

CTR is a widely used technical acronym that is rapidly becoming a part of everyday language. It stands for controlled thermonuclear reactor, and the phrase embodies the world's long-range hope for cheap and unlimited energy.

There is a long way to go.

No scientist seriously expects to see a fusion reactor producing commercial power this century. However, considerable progress is being made.

Of the many schemes for fusion reactors, the Tokamak device is the current leading contender. (Tokamak: A Russian coinage translating roughly to toroidal chamber magnetic confinement.) The doughnut-shaped machine holds and heats reactive isotopes of hydrogen within a magnetic field.

The recent development of neutral beams (beams of ions that have been recombined with electrons to become electrically neutral) has provided a method which, theoretically at least, could give the plasma inside the Tokamak the extra "zap" to produce fusion reaction and a working reactor. As the magnetic field of the Tokamak compresses the plasma, neutral beams (unaffected by the magnetic field) could pump more energy into the plasma.

This is the thrust of current CTR research.

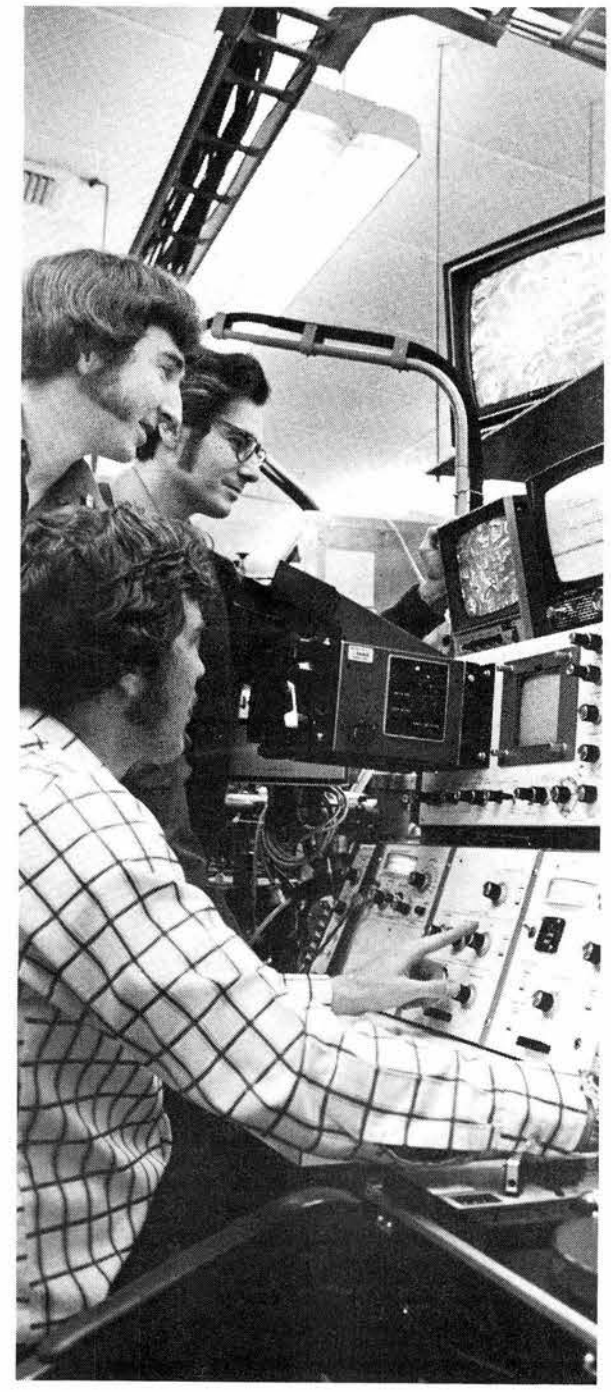
Members of the Applied Research Directorate 8300 have undertaken a study basic to the success of the CTR program. ERDA has provided $150,000 for the study. Walt Bauer, Division 8334 supervisor, and George Thomas (8313) are evaluating surface erosion, bulk damage and gas re-emission characteristics of materials under consideration for use as the inner wall or so-called first wall of the toroidal Tokamak device.

Although the heated plasma of a fusion reactor would never touch it, the first wall will have to withstand energized nuclear particles and other radiation emanating from an environment never before created on earth except within a thermonuclear explosion.

The first wall and certain components will be subjected to large fluences of hydrogen-isotope and helium ions with energies between zero and 100 keV. The neutral D and T currents the first wall could experience are between 10^{14} and 10^{16} particles/cm^{2}sec with helium ion current of 10^{12} to 10^{13} ions/cm^2-sec.

Experiments already conducted show that potential first wall materials may rapidly blister or exfoliate under these conditions. This surface flaking not only results in quick erosion of the wall, but also contaminates the plasma and may halt the fusion reaction. The poisoning of plasmas by wall material is currently a matter of concern to researchers in several of the CTR laboratories such as Princeton.

Division 8334 is using a 450 kV positive ion accelerator to bombard the materials. A scanning electron microscope connected with a video tape system enables examination of the sample undergoing test. On a microscopic level, the researchers can observe in devastating detail what happens to materials in this environment.



DETAILS OF DEVASTATION on a molecular level are seen when a material sample is subjected to CTR environment. Video system is connected to a scanning electron microscope focused on the target area of a 450 KeV positive ion accelerator. Researcher George Thomas (8334), upper right, Dan Morse (8334) and operator Les Brown (8313) conduct the experiment.

Other investigators in this study are Ken Wilson (8334), Pete Mattern (8334) and Barry Granoff (5825). These Sandians are cataloging the results of the experiments, performing analysis, and developing a fundamental understanding of plasma wall intersection.

A part of the effort is concerned with finding new materials which release less sputtered material into the plasmas. In addition to the physical experiments, Bill Wilson (8341) and Mike Baskes (8341) are performing theoretical calculations to understand the behavior of helium in metals and the cause of blistering and flaking during He bombardment. The implantations are conducted by Dan Morse (8334) and the microscopy observations by Les Brown (8313) and Clarence Karfs (8312).

Take Note

The Albuquerque Lesser Symphony Orchestra will present a Casual Concert, May 19, on Stage II at the University of Albuquerque's Fine Arts Learning Center.

ALSO, directed by John Gaston, will play Schubert's Symphony No. 7, "The Great"; three selections from Britten's Matinees Musicales; and violinist Gary Derbenwick (2141) will be one of the soloists in Bach's "Double Concerto" in D Minor.

The performance will begin at 7:30 p.m. and the public is invited.

* * *

If members of Technical Writing Division 3151 and Publication Services Division 3152 should decide to make their fortune in the outside world, they'd be well advised to open a chili parlor. At last weeks' chili luncheon in Bldg. 892 the ladies netted $127. The lunch is one of a series, proceeds of which go to the South Highway 10/14 Village Project.

* * *

LAB NEWS is looking for an abacus practitioner. A recent article in the LLL *Newsline* detailed the feats of one of their abacus masters, and it left the impression that the computer really is on the way out. Give us a call, 4-1053, if you've got one and know how to use it.

* * *

Glen Brandvold (5710) and John Colp (5710A) will be in San Francisco May 20-29 attending the Second United Nations Symposium on the Development and Use of Geothermal Resources. They will present "Sandia Magma Energy Research Project" (LAB NEWS, May 10, 1974). One thousand delegates from throughout the world will be attending the meeting.

* * *

Bob Gregory (2140) will present "The Sandia Solid State Development Laboratory" at the 5100 Seminar Tuesday, May 20, at 8:30 a.m. in Bldg. 806, Rm. 201.

* * *

Sandians who served in the Eighth Air Force may be interested in the group's first reunion. It will be Oct. 10-12 in Miami Beach. More info from: Lt. Col. J.H. Woolnough, 7752 Harbour Blvd, Miramar, FL 33023.

* * *

The Heart Association is sponsoring a blood pressure screening clinic at K-Mart, 2100 Carlisle NE, on Saturday the 24th from 10 to 4 p.m. Student nurses will run the test, and there is no charge.

***

The Police Athletic League is offering a 9-week course in elementary classical ballet for people ages 8 to 21. Registration dates are May 24 and 31, 10 to noon, at PAL, 121 Arno NE (old AHS). Classes begin on June 9 and will be held at 6 p.m. and 7 p.m. on Mondays and Wednesdays. A 50¢ membership fee is the only charge.

***

Second Annual Open House is being held by the Albuquerque Police Dept. tomorrow, May 17, from 10 to 4 p.m. The public is invited. The Police Bldg. is located at 401 Marqette NW.

* * *

Couple of issues ago we were critical of the wilderness people for their resistance to development of geothermal energy sources in wilderness areas. Sandia's Corry McDonald, who is chairman of the N.M. Wilderness Study Committee, called to state that it's not the concept of geothermal power in a wilderness area that they are opposed to, but rather the proliferation of access roads to potential sites. Many such sites prove to be unproductive, the contractor moves out, and the area bears the scar of the access road for years. The solution in Corry's view is for preliminary exploration and drilling to be done via helicopter drops, with the government furnishing the helicopter for some negotiated fee that would probably be less than the cost of the acess road. If you've ever flown in a light plane over the forests of New Mexico, you've seen the incredible maze of timber and mining roads that disfigures the landscape. The helicopter route makes sense.

IN MAY 1968, this picture of Mickey Sanchez and his five daughters illustrated a LAB NEWS Savings Bond story. Mickey still buys Bonds.

Mickey Sanchez Still Buys Bonds

Back in '68 LAB NEWS ran a story about Mickey Sanchez (4812) as a testimonial for buying U.S. Savings Bonds. Mickey, then as now, had five good reasons for buying bonds — his family of five daughters.

Mickey started buying bonds while still a bachelor, many years ago. He courted Colfita (also a Sandia employee then), married, and built a house in Peralta. The years since have been good. The bonds have accumulated.

"Sure, I've had to cash some," Mickey says. "With five daughters going to school there's always expenses above the budget. The Bonds have made a difference. They still do. And there's college coming up."

Mickey has additional reasons for buying Bonds which are seldom mentioned when discussing long range investments.

"There are other investments which pay more interest," he says. "But certificates of deposit and such require a minimum of about $1000 and must be held a year or so before any interest is realized. Now how many of us have $1000 in cash? Who can say that they might not need it for a year? You can buy Savings Bonds in small amounts through payroll deduction and not miss the money. And there's little difficulty in cashing them. I like this. I really hate to cash bonds, but if necessary, they can be cashed at any bank at any time."

Sympathy

To Palmer Nelson (1124) on the death of his father in North Dakota, April 18.

To Dick Simmons (9751) on the death of his father-in-law in Oklahoma, April 28.

To Gerda Krefft (5112) on the death of her father in New Jersey, April 9.

The 'Smart' Electron Microprobe

Cross an electron microscope with an x-ray fluorescence analyzer and you get an electron microprobe. Cross *that* with a computer and you get a "smart" microprobe, a highly versatile analytical tool pioneered by Sandia's Bill Chambers (5822).

A microprobe works by producing a finely focused beam of electrons (1/10 to 1 micron in diameter) which strikes the surface of a sample of the material being studied. The sample is usually a metal alloy or composite, but ceramics or geologic samples (such as rocks) can be analyzed too if they're coated with carbon to make them electrically conductive. The instrument has a wide range of sensitivity and can detect beryllium through uranium on the periodic table of elements.

"When the beam hits the sample, several things happen," says Bill. "Part is reflected, part is absorbed, part produces Auger electrons, part of the beam's energy goes to produce secondary electrons — the principle underlying the scanning electron microscope. The last part goes into the production of x-rays, and that's what makes the microprobe work."

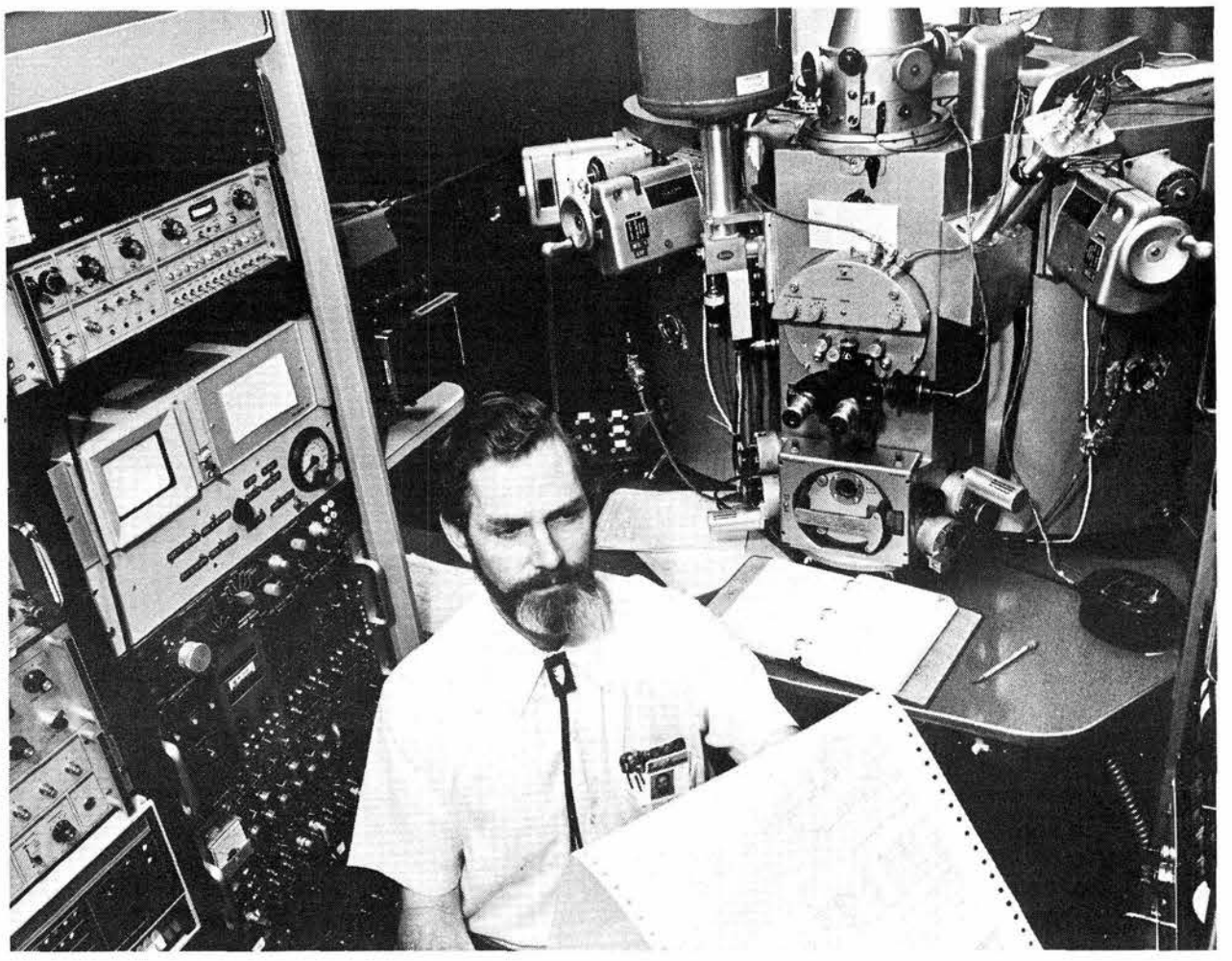
Bill and his coworkers, Jim Rife and Paul Hlava, use the microprobe to detect contaminants of relay contacts and semiconductor devices, to check diffusion of simulated nuclear wastes, to study phase diagrams, and to study the diffusion that takes place when two metals are sandwiched together and heated. "By analyzing data from microprobe traces across the sandwich, we can determine the rate at which various compounds form and the threshhold temperatures involved," says Bill.

Homogeneity studies have played a large role in the microprobe's workload. The goal is to form an alloy of two or more metals (silicon and germanium, for example) which is completely uniform throughout (not a layered structure). Microprobe results help the researcher define the process to follow to achieve a uniform material.

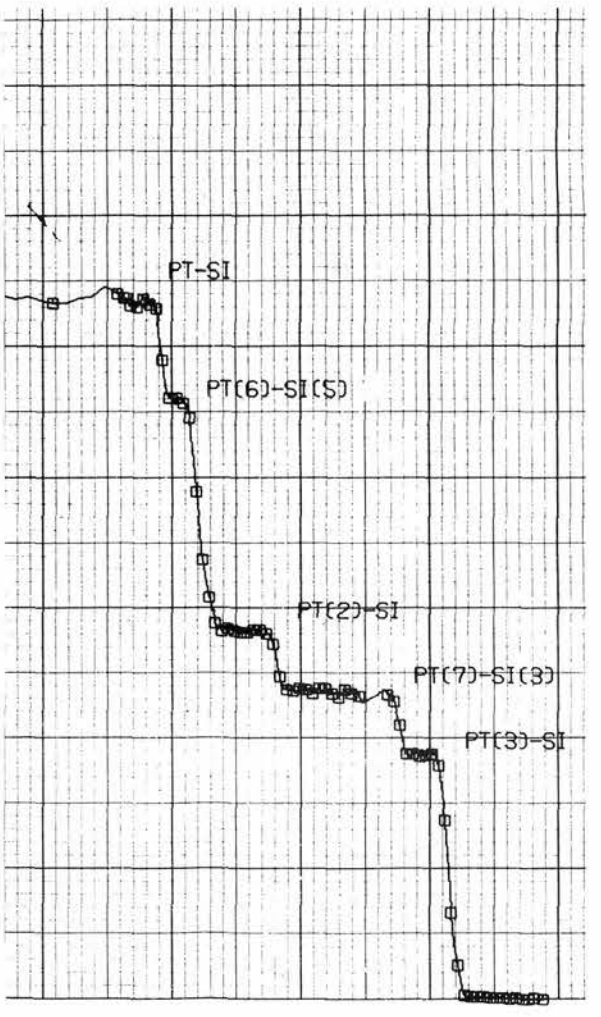
Back in 1968 Bill saw the tremendous potential of a "smart" probe — one controlled by an interactive computer which responds in real-time to the results of one data-gathering step and decides on the probe's next step automatically. The necessary programs and hardware were not available at that time and were developed at Sandia under Bill's direction. The computer is capable of controlling the sample stage motion, spectrometer positions, electron beam position, counters and timers, and pulse height analyzers. Programs have been developed for a variety of different functions such as instrument alignment, on-line quantitative analyses for up to 23 elements, determination of reaction zone widths, and other special programs tailored for specific projects.

In 1968 such capabilities were unheard-of. Most microprobe manufacturers now offer models with computer interface capabilities; however, even today the level of sophistication of the two Sandia units is unique.

The microprobe's outputs include Polaroid photographs (which can show either surface features or elemental distributions), computer-generated plots which show composition as a function of location, computer-produced listings of a material's constitutent elements by percentage, or a combination of these. It's quite a versatile tool. • bh



COMPUTER, BILL CHAMBERS with tab run of data, and electron microprobe (left to right). A focused beam of electrons in the probe strikes sample in the tank (to the right of Bill's shoulder). Three detectors in the tank are coupled, through amplifiers and analyzers, to a set of counters controlled by the computer (left). Stepping motors mounted on the tank can position the detectors or the sample itself — they're computer controlled too.



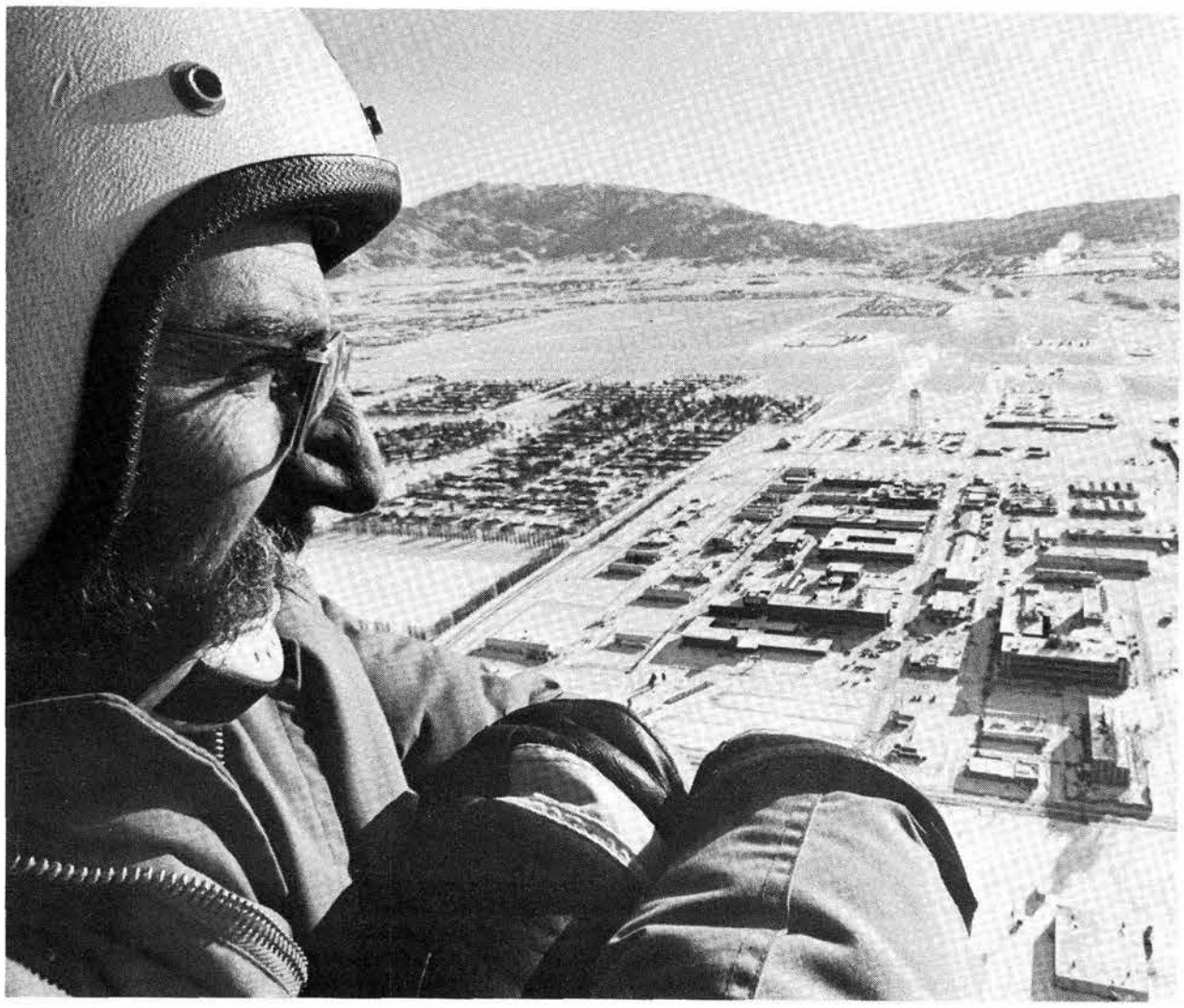
STAIRSTEP PATTERN shows part of reaction zone when plates of platinum and silicon are clamped together and heated at 700 C for 96 hours. Top step corresponds to the compound PtSi, lower steps to Pt_6Si_5, Pt_2Si, Pt_7Si_3, Pt_4Si, and unreacted platinum. To obtain this plot, over 300 separate analyses were made under computer control in steps ranging from 0.6 to 3 microns.

READY TO TAKE MEASURES are these graduates of a 44-months on-the-job training program in metrology. They are Orlando Espinosa, Sam Giron and Dick Shaw of Mechanical Inspection Section 3613-2. The men completed 7400 hours of study and training to become journeymen metrologists.

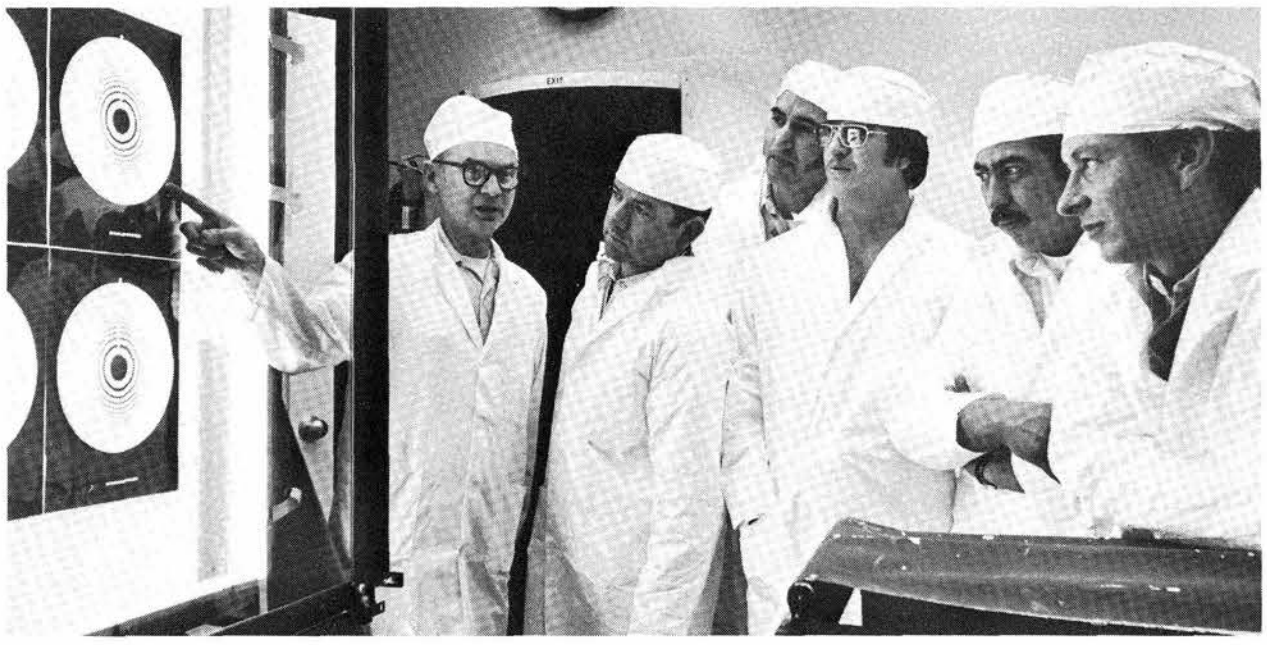
Congratulations

Mr. and Mrs. Robert Smyth (9718), a son, Austin Robert, May 2.

Charles (9624) and Linda (5811) Borgman, a son, Jeffrey Nathaniel, May 3.



LAB NEWS photographer Bill Laskar just can't stay away, even on weekends, from that place he knows and loves. When balloonist John Ashworth (9541) invited him for a ride, Bill hopped in and this is where they were a few minutes later. Crew finally landed on the Isleta reservation.



PROCESS ENGINEER Bob Sylvester (3623) explains negative on copy board to touring students from Luna Vocational School in Espanola. Group donned smocks and hats for tour of Photofabricated Components Lab, one of several facilities visited.

REMOTE AREAS MAINTENANCE CREW logs some 800 miles monthly cleaning 64 buildings and 14 trailers in Area III, Manzano, Area V and Coyote Canyon. From left are lead man Pete Ortiz, Doug Gourley, Bennie Chavira, Juan Serrano, Eliseo Martinez, Mike Markley, Francisco Sanchez and Alfred Montoya (all 9718).

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R.T. Meyer and A.W. Lynch (both 5824), "A Method for Determining the Vapor Phase Component of Carbon Mass Loss," Vol. 12, No. 6, CARBON.

S.J. Niemczyk (5151), "A SCF-X_a-SW Investigation of Chemisorption Bonding of Chalcogens on Nickel (001)," Vol. 12, No. 1, THE JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY.

J.A. Panitz (5114), "Field Desorption of Helium and Neon from Tungsten and Iridium," Vol. 12, No. 1, THE JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY.

G.E. Pike (5155), A.W. Mullendore (5825), J.E. Schirber (5150) and J. Napier, "Superconducting Properties of Thin Film Niobium Carbonitrides on Carbon Fibers," Vol. 11, No. 2, IEEE Transactions on MAGNETICS.

R.K. Quinn (5154), N.R. Armstrong and N.E. Vanderborgh, "Electrochemistry at Thin Solid Films," Vol. 12, No. 1, THE JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY.

Speakers

R.E. Hebner (NBS) and S.R. Booker (9532), "A Portable Kerr System for the Measurement of High Voltage Pulses," Southeastern Conference, IEEE, April 7-9, Charlotte, N.C.

D.O. Smallwood and N.F. Hunter (both 9332), "A Transportable 56 kN, 200 mm Displacement Hydraulic Shaker for Seismic Simulation"; D.O. Lee and W.P. Schimmel (both 1543), "Sizing of North-South Oriented Solar Collector Fields," Institute of Environmental Sciences 21st Annual Meeting, April 13-16, Anaheim, Calif.

W.H. Smyrl (5831), "Influence of Geometry on Potential and Current Distribution in Metal Dissolution Processes," NACE Research Conference, April 14-16, Toronto, Canada.

S.W. Key (1541), "The Large Deformation Dynamic Response of Axisymmetric Solids by the Finite Element Method," R.E. Nickell and S.W. Key (both 1541), "Chapter III. Primitive Elements Part 2: The Bilinear Quadrilateral," ASCE Special Publication, ASCE National & Structural Engineering Convention, April 16-17, New Orleans.

N.J. DeLollis (5813), "Adhesive Properties of Urethane Resin," 1975 Spring Meeting of SAMPE, April 15-17, San Diego.

D.K. Gartlin (1543), "Finite Element Analysis of Viscous, Incompressible Fluid Flow," Topical Conference on Computational Methods in Nuclear Engineering, April 15-17, Charleston, S.C.

J.W. Reed (5644), "Wind Power Climatology," April 19, Albuquerque.

M.L. Lieberman (5825), "Recent Advances in Carbon Technology," Central N.M. Section of the American Chemical Society," April 18, Las Vegas, N.M.

M.J. Sagartz and M.J. Forrestal (both 9324), "Motion of a Stretched Cable Produced by an Accelerating Force"; Forrestal and Sagartz, "Transient Vibration Experiments for Determination of Properties for Viscoelastic Structures"; J.W. Nunziato (5131), D.E. Amos (5122) and E.K. Walsh (Univ. of Fla.), "Shock Wave Structure in a Linear Elastic Mixture with Binary Chemical Reactions," 1975 Joint JSME-ASME Applied Mechanics Western Conference, March 24-27, Honoluly, Hawaii.

G.J. Hochrein (5644) and T.P. Conlon (3622), "Written and Oral Communications in a Technical Job," UNM nuclear engineering graduate class, April 8.

R.C. Maydew (5620), "Wind Turbine Studies at Sandia," Engineering Seminar, NMSU, March 14.

D.M. Mattox (5834), "Coatings for Solar Energy Applications," 18th Annual Conference of the Society of Vacuum Coaters, April 7-9, Key Biscayne, Fla.

J.R. Freeman, et al. (5241), "Electron Beam Fusion," Annual Meeting on Theoretical Aspects of Controlled Thermonuclear Research, April 7-9, Naval Research Lab, Washington, D.C.

R.P. Clark (2523), "Applications of Thermal Analysis at Sandia Laboratories," Round Table on Thermal Analysis, National Institute for Occupational Safety and Health, April 16-17, Cincinnati, Ohio.

E.A. Salazar (5811), "Insulation Resistance and Peel Strength Copper-Kapton® Flexible Printed Wiring"; C.W. Jennings (2433), "Printed Wiring Board Process Study," Institute of Printed Circuits annual meeting, April 21-23, Washington, D.C.

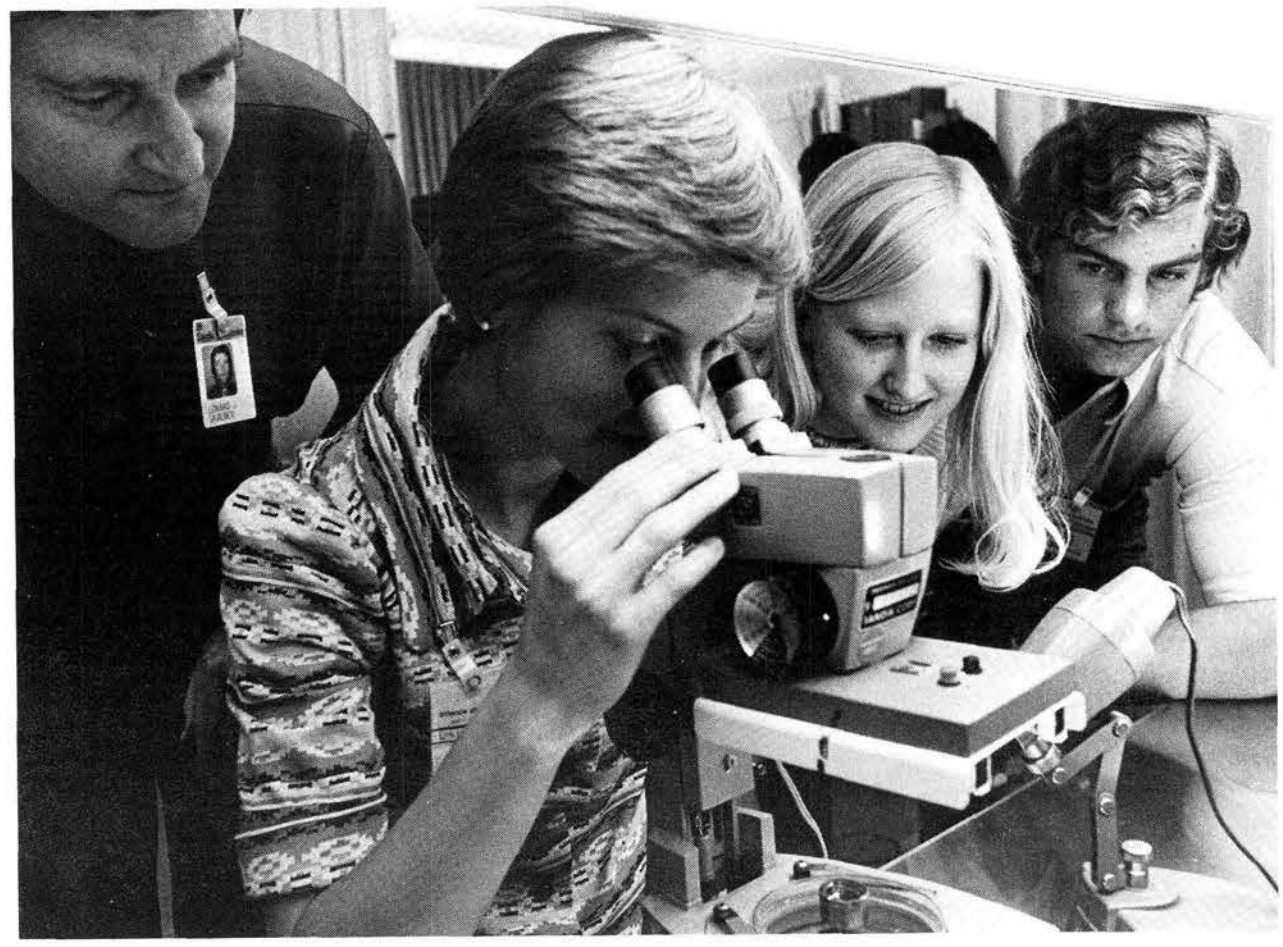
J.R. Kannolt (2344), "An Ultra Hi Speed Spin Test System," 1975 Design Engineering Conference, April 21-24, New York City.

R.G. Vigil (9484), "Sandia Computerized Ground Station," Univac Series 60 Computer Convention, April 21-24, Atlanta, Ga.

P.H. Holloway (5825) and N.J. Magnani (5831), "The Kinetic Relationship Between Gas/Metal Reactions and Stress Corrosion Cracking of U-Nb and U-Ti Alloys"; R.S. Blewer (2413), "Application of the Proton Backscattering Technique to Nuclear Weapon Materials Problems, US/UK Weapon Symposium, April 22-23, SLL.

F. Schelby (9486), "Miniature Transducer Amplifiers Developed for Telemetry Applications," Eighth Transducer Workshop, April 22-24, Dayton, Ohio.

R.D. Klett (4734), "Deep-Rock High Level Nuclear Waste Disposal"; C. MacCallum (5223), "Search for Gamma Ray Lines from Galactic and Extragalactic Sources"; R.T. Dillon (5251), "Some Factors Affecting the Dry Heat Induction of Auxotrophs in *Bacillus* var. *Niger* Spores"; I. Auerbach (5628), "Kinetics and Mechanisms of Graphite, Tungsten, and Copper-Tungsten Ablation at High Temperatures and Pressures"; J. Reed (5644), "Wind Power Climatology Research at Sandia Laboratories"; J.L. Colp (5710A), "Magma Energy Research at Sandia"; R.L. Alvis (5718), "Improved Drilling - A Part of the Energy Solution," AAAS meeting, April 23-26, Los Alamos.



WHEN SCIENCE and a young person meet, it may be the beginning of a long romance. Looks like Ed Graeber of Materials Analysis Division 5825 may have struck paydirt here with these visitors, who were at the Labs in connection with Science Youth Day. More than 200 showed up for the tour.

L.D. Chapman and J.R. Wayland (both 4734), "Dynamics of Nuclear Reactor Operational Cycles"; Chapman, R.G. Cuddihy (ITRI) and Wayland, "Environmental Dynamics of Toxic Releases and the Transport to Man," Conference on Modeling and Simulation, April 24-25, Pittsburgh, Pa.

D.M. Mattox (5834), "Thin Films and Coatings for Solar Energy Applications," Seminar of the Argonne National Laboratories, April 28, Argonne, Ill.

J.K. Rice (5216), "The Observation of Kr:S(^{1}S) Emission Near 7725 Å in Electron-Beam-Excited Mixtures of High-Pressure Drypton and COS"; L.P. Mix (5242), "Time Resolved Measurements of Superpinched Electron Beam Current Density"; D.W. Swain, J.G. Kelly and S.A. Goldstein (all 5242), "Time Resolved Measurement of Ion Current in a Relativistic Electron Beam Diode"; T.P. Wright and G.R. Hadley (both 5241), "Fluid Equations and Some Applications to Relativistic Electron Beam Diodes"; C.M. Vittitoe (5223), "Propagation of an Electromagnetic Pulse in an Ionized Medium," American Physical Society Meeting, April 28-May 1, Washington, D.C.

R.T. Dillon (5251), "Relative Humidity Effects on Dry Heat Induction of *Bacillus subtilis* va. *niger* Spores," Annual meeting of American Society for Microbiology, May 2-7, New York City.

F.V. Stohl (5822), "The Crystal Chemistry of the Uranyl Silicate Minerals," Geology Dept., UNM, April 3.

M.J. Becktell (5200), "Safety Awareness During Research, Development and Operation of REB Fusion Accelerators," Laser/Fusion Safety Workshop, April 15-16, Germantown, MD.

J.A. Panitz (5114), "Surface Characterization by Single Atom Mass Spectroscopies," Materials Science Seminar, April 16, Univ. of Maryland, College Park, MD.

A.G. Beattie (9352), "Problems in Acoustic Emission Signal Analysis," Acoustic Emission Working Group Meeting, April 28-30, San Antonio, Texas.

D.W. Schaefer (5814), "Dynamics of Charged Macromolecules and Colloidal Crystals," Invited Seminar, Dept. of Physics, Univ. of Colorado, May 1, Boulder.

R.W. Harrigan (5717), "Solar Energy," April 1, Sandia Kiwanis Club, and April 15, Rio Rancho Civic Association.

H.C. Monteith (9344), "Creativity," April 3, West Mesa Civitan Club; "Reincarnation," April 14, Rio Grande Kiwanis Club; and "ESP Research in Russia, England and America," April 21, McKinley Junior High School class.

N.J. DeLollis (5813), "How to Beat the High Cost of Dying," April 4, Rio Grande Lions Club; "Adhesive Properties of Urethane Resins," SAMPE 20th National Symposium and Exhibition, April 28-May 1, San Diego.

H.R. Shelton (3132), "I'm OK, You're OK," April 11, Rio Grande Lions Club.

S.G. Vandevender (4734), "Bicycling in Albuquerque," April 16, St. Pius High School class.

K. Person (211), "Sandia's Affirmative Action/EEO Program," April 22, Jefferson Jr. High School class.

M.E. Riley and M.K. Matzen (both 5211), "Non-Maxwellian- H and F Velocity Distributions in an H_2F_2 Reaction," Research Seminar, May 1, LASL; M.E. Riley, "Approximations for the Exchange Potential in Electron Scattering," Eighth Midwest Theoretical Chemistry Conference, May 1-3, Univ. of Wisconsin, Madison.

A.J. Toepfer (5242), "Electron Beam Fusion Research at Sandia," MIT & AS&E, May 2, Cambridge, Mass.

R.J. Eagan (5846), "Glass Ceramic/Molybdenum Vacuum Tube Envelopes"; J.C. Swearengen (5847) and R.J. Eagan, "Mechanical Properties of Zinc-Silicate Glass-Ceramics"; G.S. Snow and R.H. Dungan (both 2521), "Hot Pressing Large PLZT Slugs for Electrooptic Windows," American Ceramic Society Meeting, May 3-8, Washington, D.C.

J.L. Colp (5710A) and J.B. Herbich (Texas A&M Univ.), "Inclined Pullout Forces for Embedded Plate Anchors," Offshore Technology Conference, May 5-8, Houston, Texas.

D.G. Schueler (5113), J.G. Fossum (2113) and E.L. Burgess (5155), "Integration of Photovoltaic and Solar-Thermal Energy Conversion Systems"; J.G. Fossum, "Computer-Aided Numerical Analysis of Solar Cells," IEEE Photovoltaic Specialists Conference, May 6-8,Phoenix, Ariz.

W.J. Kass (5834) and B.G. Self (2413), "Thermal Outgassing of Vacuum Materials and Hydrides"; D.G. Schreiner (5114), "Appearance Potential Spectroscopic Examination of a Coal Methanation Catalyst"; P. Cowgill (2413), "Diffusivity Probing in Ion Implanted Targets With the $H^2(d,n)He^3$ Reaction"; G.B. Krefft (5112), "Radiation Effectes in Alumina"; P.F. Knutson (2432), "The Influence of Process Variables and Substrate Materials on Vacuum Deposited Chromium/Gold Adhesion and Bondability"; H.H. Madden (5114), "ESD/APS Study of the (110) Ni/O_2 and (110) Ni/H_2 Chemisorption Systems"; C.F. Melius (5211), "The Role of d Electrons in Chemisorption and Catalysis on Transition Metals"; R.S. Berg (5834), "Surface Texturing by Sputter Etching"; G.C. Nelson (5825), "The Influence of Surface Roughness on the Intensity of Elastically Scattered Noble Gas Ions"; G.J. Kominiak (5834), "Contamination of Substrate Surfaces During Glow Discharge Sputter Cleaning"; J.E. Houston (5114), "Final State Effects in the Soft X-Ray Appearance Potential Spectrum of Graphite"; E.P. EerNisse (5112), "Sputtering of ErD_2 Films"; M.L. Knotek (5155), "Thermal Desorption of Ions from the Surface of Beta-Alumina — Variations in Surface Mobility"; D.R. Johnson and G.J. Hof (both 2432), "The Influence of Substrate Purity and Manufacturer on Thick Film Conductor Adhesion"; S.J. Niemczyk (5151), "An ScF-$X\tilde{a}$-SW Investigation of Tungsten Carbide"; P.J. Feibelman (5151), "Surface Photoemission - Effects Associated with Surface Dielectric Behavior"; J.E. Uhl (5114), "Contamination of Substrate Surfaces During Glow Discharge Sputter Cleaning," 11th Annual Symposium of the N.M. Chapter of the American Vacuum Society, May 6-8, Albuquerque.

Besieged in a Jacal OR One Vs. Eighty

(SANTA FE, NEW MEXICO TERRITORY, OCTOBER 1884) — The little village of Frisco was nearly expunged from this planet last week. Local residents were unwilling hosts to an army of Texans whose aim it was to murder one Elfego Baca.

That they failed is a miracle of our trying times.

Witnesses who watched the bloody episode report that young Baca survived 36 hours of the deadliest hail of lead ever unleased in this Catron County town. . .

* * *

Thus might begin a contemporary account of the ordeal of Elfego Baca. But the story really began when Baca, then just 19, left Socorro to campaign for the re-election of Sheriff Don Pedro Simpson. His garb included a Prince Albert coat, a pair of six-shooters, and a mail-order deputy sheriff's badge.

He arrived in Frisco (now Reserve) in time to note the activities of a young Texan, name of McCarty, who was riding up and down Frisco's main street, shooting up the place in a display of high spirits. When Baca suggested to the JP that McCarty be arrested, the official was aghast. "What? And bring down the well-armed wrath of dozens of Texans upon us?"

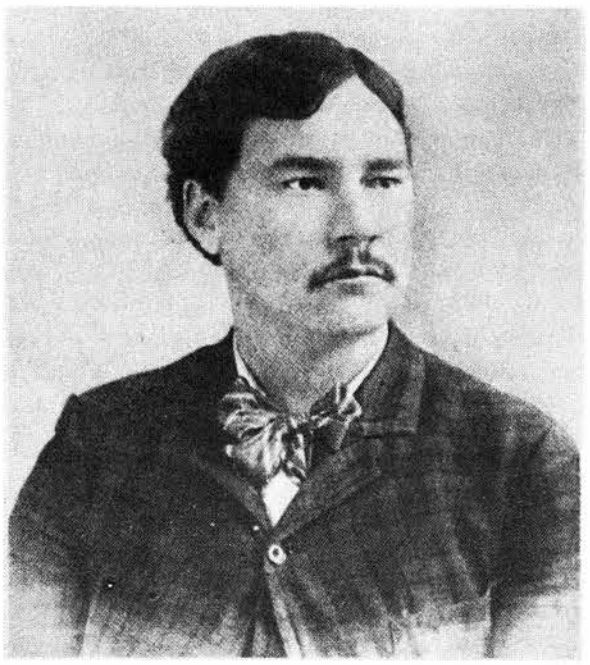
So Baca and his bogus star "arrested" McCarty and again appeared before the JP, this time with prisoner. And again the JP thought of several reasons (most of them .45 caliber) for doing nothing. Baca decided to escort his Texan to Socorro for trial.

News of the arrest spread quickly. And Texans throughout Catron County headed for Frisco.

A group of McCarty's companions confronted Baca, demanding his release. Baca allowed that the group should take their leave by the count of three or he would hold himself unaccountable for the consequences.

Such panache took the armed invaders by surprise, especially when Baca reiterated his ultimatum.

And while the Texans planned strategy, Baca counted. On three, he destroyed the myth that sheriffs with names like Baca wouldn't dare squeeze a six-gun trigger. One horse toppled, resulting in one less cowboy. Another cowboy suffered a grievous knee injury. The rest hastily recalled previous engagements.



ELFEGO BACA, shortly after the incident at Frisco.

More Texans arrived. And a deputy sheriff, one Dan Bechtol. He learned that 80 Texans were gathered to wreak vengeance — all in all, an embarrassing reversal of the "one riot, one Ranger" canon of ethics. An all-night, all-Texan revelry followed.

Dawn, Bechtol was hung-over, and so were the Texans. Baca and McCarty passed through the group as Baca explained he was taking McCarty to trial before the JP.

The trial didn't last long. McCarty was fined five dollars. And that should have ended the matter.

But it didn't. Here were 80 cowboys, all armed up and nothing to shoot. Baca sensed that his 19-year-old life was facing a non-actuarial termination. He took refuge in a *jacal*, a flimsy hut made by planting posts in the ground, chinking the cracks with mud, and topping the whole with an earthen roof.

A cowboy named Herne took the direct approach at getting Baca out. He walked up to the door and began kicking it apart. Two bullets through the door ended his entry and, shortly after, his life.

At this point Elfego decided to show the Texans his considerable skill with a Colt .45. The owners of several sombreros, dropped while Herne was dragged away, dashed to retrieve them. Baca perforated each hat one to three times.

Bechtol, vertical once more, then convinced the group that Baca had to be lynched. He however refused to take an active part on grounds that he was too tired.

The rest of the group wasn't.

,The siege begins.

The Texans fire volley after volley — near the floor, a few inches higher, higher yet. Silence. A contingent goes to remove the body — and meets a hail of bullets. Repeat the scenario, again and again.

It's great sport for everyone — except Baca and the few Texans who fall victim to his marksmanship.

Darkness falls. Baca has to be dead. Just to make sure, the besiegers toss a stick of dynamite through the bullet-fragmented door. Most of the roof collapses in the explosion, and it's all quite reassuring. Sentries are posted, and the rest head for beds.

Dawn. The Texans sniff in disbelief. A thin curl of smoke winds out of the remainder of the chimney. Elfego is not only alive, he's cooking breakfast. (He's fixed meat, tortillas and coffee, but reported later he hadn't really been very hungry.)

The Texans resume the siege. One borrows a cast-iron stove top for a shield and makes good progress until he pokes his head out to see how close he is. Baca parts his hair directly down the middle, and the would-be knight retreats hastily.

The show continues all day. A rooting section of Frisco locals cheers Baca — from a safe distance.

By evening the stalemate is recognized. Another deputy (named Ross or Rose), a rancher, and a friend of Baca's convince him to surrender. Baca agrees, but sets the terms: Texans withdraw, he keeps his guns. Baca emerges. He is wild-eyed, his hair stands on end, he wears only long underwear, and he carries two very warm six-guns.

Next day a procession heads for Socorro and a trial for damage wrought upon the attackers: Texans first, then Deputy Ross driving a buckboard, then Baca on the back seat — with his guns.

The trial made Baca a hero. He had survived 33 hours of seige by 80 armed men, killing 4, wounding 8. The *jacal* took over 4000 bullets. Its door had 367 holes. A broom handle had nine. Elfego didn't have a scratch. One Texan testified he could shoot Baca point-blank in the courtroom and Baca would remain unscathed.

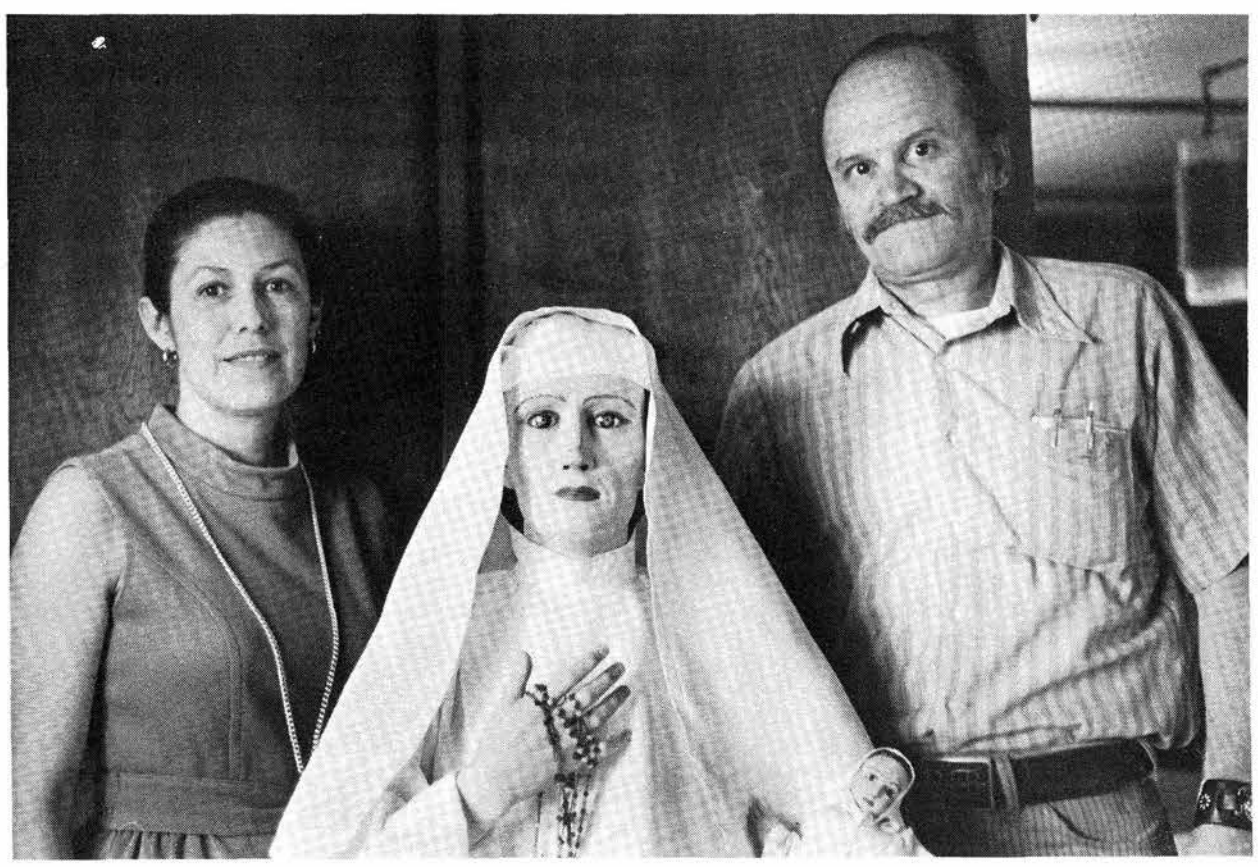
Baca himself credited his feat to geometry — the *jacal* floor was a foot lower than the surrounding ground. That and luck and a statue of Saint Ann which, like Baca, survived the siege without a scratch.

His luck held. The jury acquitted him.

Now he was famous. He ended up sheriff of Catron County and did a good job, seldom resorting to force. Instead, he wrote a pleasant personal letter to each felon in the area, reminding him of certain skills and inviting him to drop in to see his sheriff. Most did.

Baca died in Albuquerque in 1945, peacefully. • bh

(Sources: *Rio Grande*, Harvey Ferguson and *Haunted Highways*, Ralph Looney)

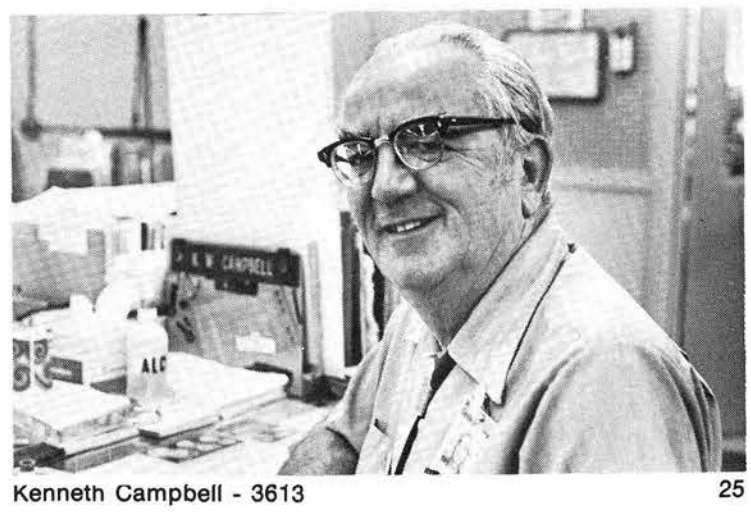


MARY ELEN Schellenbaum, Saint Ann, and Ralph Schellenbaum (1255). Property of Mary Ellen's mother, Clara Sanchez, Saint Ann was carved from wood five centuries ago in Spain, carried to Mexico, then to New Mexico by the pioneering family. After the jacal siege, Saint Ann survived two church fires and a face-lift. She's now well protected by a family that recognizes her historical and religious value.

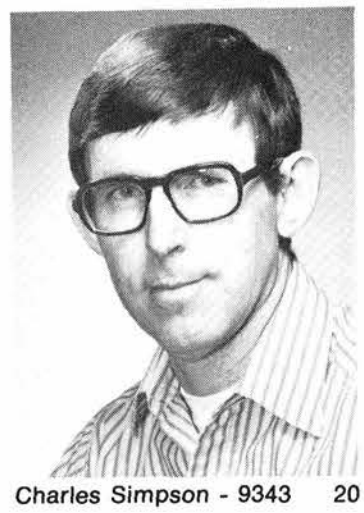
MILEPOSTS

LAB NEWS

May 1975

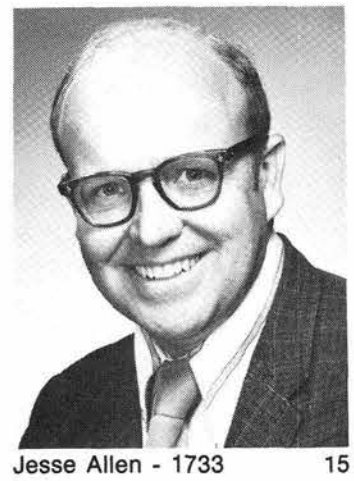


Kenneth Campbell - 3613 25

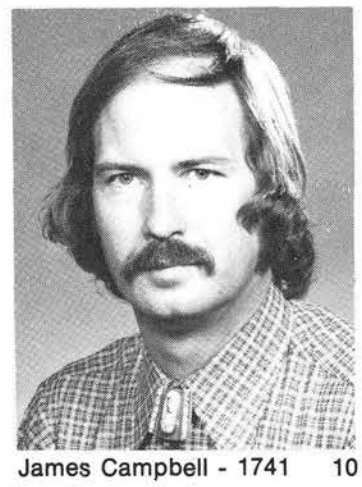


Charles Simpson - 9343 20

Jack Lafleur - 2111 20

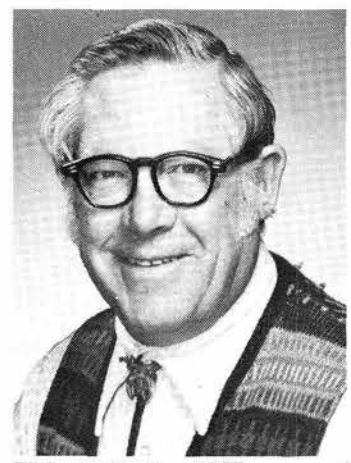


Jesse Allen - 1733 15

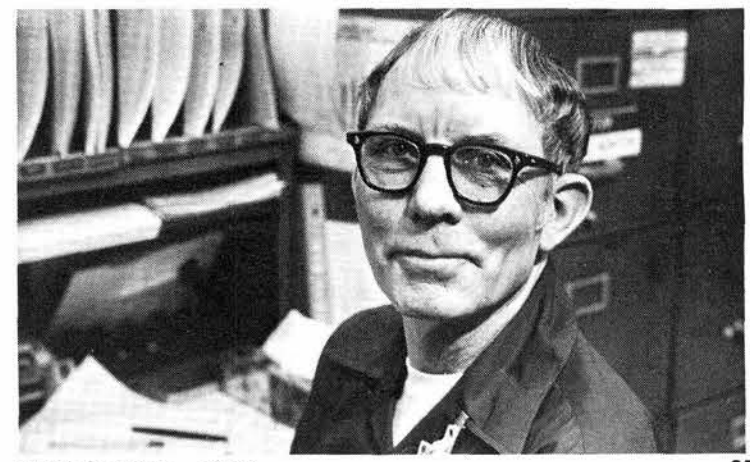


James Campbell - 1741 10

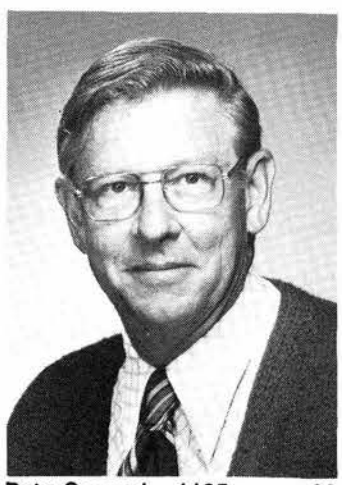
Fay Spellman - 3155 15



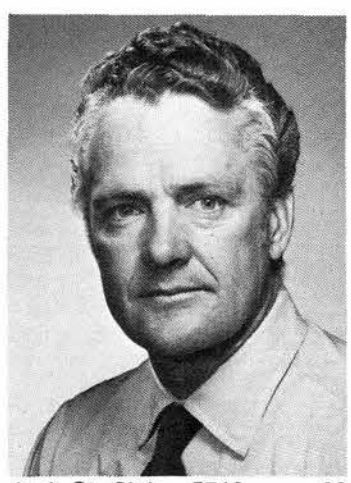
Richard Corn - 1255 15



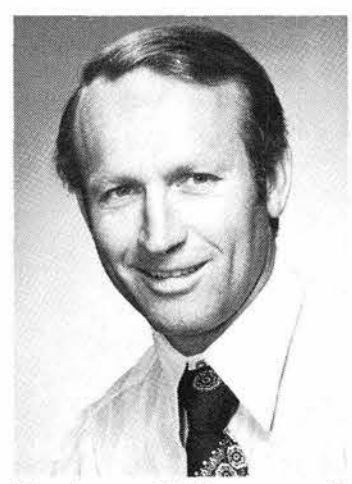
Brad Sanders - 3644 25



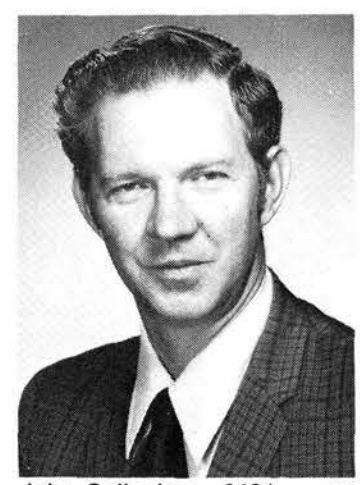
Pete Seward - 1135 20



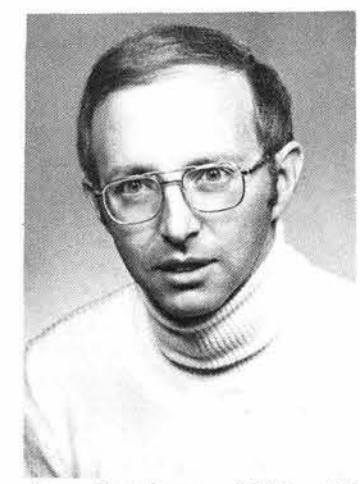
Jack St. Clair - 5718 20



Eric Jones - 5214 10

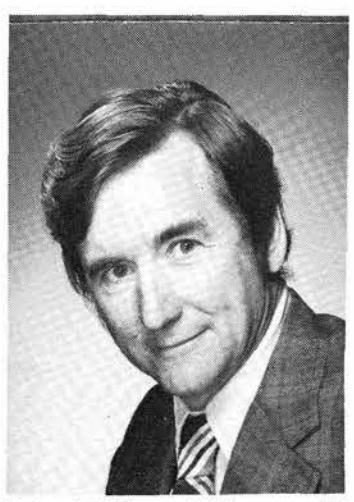


John Gallagher - 2331 15



Jerry Freedman - 1542 10

Lou Wigley - 3147 15



Robert O'Nan - 2121 20

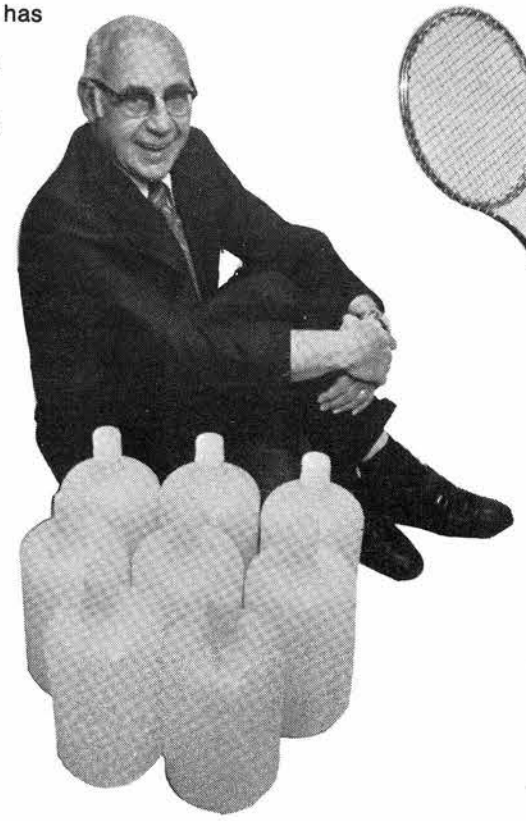
Amy Kahoiwai - 4821 20

Norman Grandjean - 4732 10

sandia PEOPLE Report

MARIAN JORDAN (4256), personnel receptionist in Bldg. 832, also handles Sandia's Lost & Found service. Her number is 4-3441.

CHUCK ROEHRIG (2646) has given more than eight gallons of blood — some 67 pints. He donates at least four times a year, sometimes gets calls in the middle of the night for his O-positive.

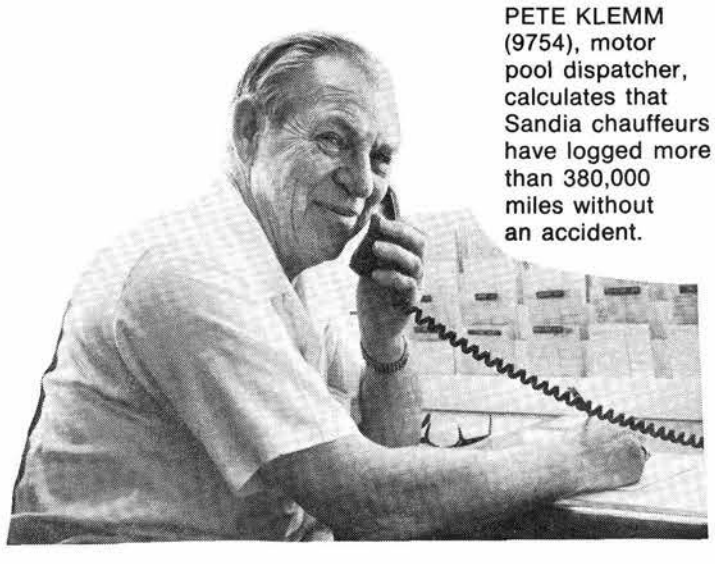


JEAN LANGSTON (4210) is looking for players to compete in the Labs' spring tournament. Singles run May 31 and June 1, while doubles are slated for June 7-8. Cost is $1/singles, $2/doubles, and there's a consolation bracket for you early losers. Send your name(s) to Jean, with entry fee, by May 20 if you'd like to enter.

STAR GAZING PARTY at South Parking Lot, Coronado Center, at sunset May 17 will offer the public free view of the planets. Sam Myers (5111), VP of Albuquerque Astronomers, says the group will discuss astronomy, equipment and membership in the club.

ONE OF 250 French posters on display at the new Public Library during June will be the original of this 1898 poster by Mucha. Calla Ann Pepmueller (3140), a Friend of the Albq. Public Library, urges Sandians to see "Three Centuries of French Posters," or sponsor a poster ($10), or give 12 hours free time to help supervise the exhibit. Call 277-7722 for information.

DOROTHY RAPER (3131), Sandia Colloquium secretary, books an average of three speakers a month — usually nationally recognized authorities on a scientific specialty. A number of committees help in the selection process.



PETE KLEMM (9754), motor pool dispatcher, calculates that Sandia chauffeurs have logged more than 380,000 miles without an accident.

MARY SNODGRASS (9550) reports that 502 employee car pools now have reserved parking at Sandia. To list a car pool, call Mary, 4-1230.

"TONIGHT at 8:15 at Popejoy Hall see Verdi's opera Falstaff," says John Gardner (3144). Gene Ives (1560) and Dick Schwoebel (5820) are in the cast: so is the mask that John sports. He directs the Albq. Opera Theatre production. Reservations at 243-0591.

Labs Man Named VP In ASME

Art Clark, manager of Systems Environmental Testing Department 9330, has been elected a Vice President of the American Society of Mechanical Engineers (ASME). He has been elected for a two-year term starting in June 1975 and will serve as VP for Region VIII.

Art has been very active in ASME. He has held office in the local section as secretary, treasurer, vice chairman and chairman, and has also been active in the regional and national levels of the society.

As VP, Art will be a member of the Council of ASME which is the board of directors of the society. He has worked at Sandia since 1951.

THE BRITISH WERE HERE. Several members of the United Kingdom's Ministry of Defense visited Sandia's Security organization to exchange information on protection of classified materials and hardware. Here Bill Martin (9551, right) shows the intrusion alarm system to Harry Driffield (seated), Bill Saxby, Tony Summersell, and Jim Walsh.

JUNK • GOODIES • TRASH • ANTIQUES • KLUNKERS • CREAM PUFFS • HOUSES • HOVELS • LOST • FOUND • WANTED • & THINGS

CLASSIFIED ADVERTISING
Deadline: Friday noon prior to week of publication unless changed by holiday.

RULES
1. Limit 20 words.
2. One ad per issue per category.
3. Must be submitted in writing.
4. Use home telephone numbers.
5. For Sandia Laboratories and ERDA employees only.
6. No commercial ads, please.
7. Include name and organization.
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

TRANSPORTATION

'72 HONDA XL-250, $600. Carlson, 299-6610.

'71 PLYMOUTH Satellite Regal, 6-pass. station wagon, 34,000 miles, AT, AC, PS, radio, new tires, $1700. Elliott, 256-7909.

MISCELLANEOUS

ANTIQUE dining table; dbl bed frame; desk; drum set; pellet gun; Zenith console stereo. Trollinger, 268-3414.

NOD-A-WAY crib, Peterson convertible stroller, Cosco 40 x 40 playpen. Werkema, 293-4700.

BUBBLE lamp, Herman Miller design, 16" dia., $10. Rowe, 296-6295.

SPEAKERS, 1 pair, 10" woofer & 3" super dome tweeter, stereo tube amplifier & turntable. Ricker, 296-2191.

REFRIGERATOR, Coldspot needs freon, $50. Chandler. 296-3323.

2 GAL. dust-beige semi-gloss paint, $6 ea.; 28" door w/frame; tub kit (panels for over tub for shower) complete, $20. Aragon, 294-0225 after 4:30.

18' SECURITY trailer, '73, completely self-contained, oversized 3-way refrig., 50 gal. water tank, used only 5 weekends, many extras, $2995. Hodges, 298-9080 after 6.

SWING set, old but good condition, you haul it, you can have it. Hickman, 298-3804.

SANSUI 1000-A tuner amplifier, 100 watts, reel to reel & 4-channel tapes, Pioneer CSA-50 speakers. Morgan, 298-6952.

CARPET, 64 yds. plush, white, gray at $4 yd., 34 yds. shag, light green at $2.50 yd. Williams, 299-4950.

TRAVEL trailer, '63 Aristocrat 13', dual propane tanks, sleeps 4, 2 spare mounted tires. $600. Finch, 268-8115.

HOSPITAL bed, manual w/-casters, wall guards & side rails, $50. Turnbough, 299-3631.

ABOVE-GROUND pool, 32' x 16' x 4', redwood decks, Diatomaceous earth filter (needs liner), $300. Jacklin, 298-3046.

39' CHAIN link fence with (1) 3' X 30" gate, (2) 3' X 6' gates; hobby horse; child's plastic swimming pool. Seymour, 831-6110.

20" BOY'S bike, puncture proof tubes, $20; electric train, American Flyer, built in late 40's, best offer. Gendreau, 268-3436.

24' X 54' & 24' X 64' mobile homes, both w/outbuilding, fenced, irrigation well, all luxury features. Richardson, 865-9505 after 5:30.

SEWING machine, straight stitch, attachments & instruction manual, $30; rollaway bed, 3/4 size, $25; portable air purifier, $50. Minter, 256-9225.

HIDE-A-BED couch, matching chair & recliner, needs some upholstery, make offer. Harris, 294-1291.

WONDER rocking horse, $10; shocks from '70 Mercury station wagon, $3/pair; 14 pieces of 5" x 35" rebar, 50¢ ea. Harstad, 298-6551.

RECONDITIONED Culligan water softener, $50. Benton, 877-2473.

SWING set, including 2 swings, lawn glider & sky shooter. Eldredge, 881-4528.

GREEN shag carpet, approx. 55 sq. yds., 2 wool carpets 9 x 12 & 10 x 12; dining table w/2 leaves & 4 chairs. Walter, 293-5020.

SEARS Craftsman reel mower & grass catcher, $20. Klett, 298-7892.

FREE: top soil, 2921 La Palomita NE. (Candelaria & Wyoming). Magnani, 299-8693.

BATHROOM sink, $15; complete toilet, $25; cement bird bath, $5. Pope. 255-6702.

NEED moving boxes: 55-gal. aquarium w/stand, accessories & fish, $195; also, 5, 10 & 15 gal. aquariums. Spath. 293-2949.

COPPERTONE O'Keefe & Merritt gas range, 36", $150. Walters, 881-4426.

REFRIGERATOR, 8.8 cu. ft., $40. Pawley, 255-8435.

GRAVELY tractor w/sickle bar, reel mower, rotary plow, cultivator, blade & lawn roller, and riding surrey, $250. Roth, 877-4997.

2 PORCELAIN bathroom vanities, w/all hardware, make offer; 36" wall light, new, $20. Laskar, 299-1024.

TDC 35mm slide projector w/spare bulb, $15; overhead luggage rack w/vinyl cover, $25. Overton. 265-6395.

TORO lawn mower, 2 yrs. old, rotary, 2 blades, $70. Kepler, 298-5652.

FIREPLACE screen, iron tools, used 7 mos., $35; push mower & catcher, $7. Trice, 247-1828.

TRAILER, 22', AC, tub & shower, refrigerator, heater, water & forced air, oven, awning, spare tire, Aquafilter. McGuckin, 299-1342.

AUTO. washer, G.E. Filter-Flow, 2-spd., 3-temperatures, newly reconditioned, white cabinet, $65. Holmes, 299-4167.

ELECTRONIC flash, Rollei E15B K-11 guide No. 35, manual operation, 8 sec. recycle time, used 20 times, $12. Borgman, 299-6010.

7MM Mauser rifle; reel lawn mower; VW trailer hitch; girl's bike, dbl./bed; back issues of Popular Science & Mechanix Illustrated. Singleton, 299-1613.

GARAGE door, swing-up, 8' x 7' w/all mounting hardware, $20 firm. Owens, 881-0815.

REFRIGERATOR, 18 cu. ft., $75. Coughenour, 296-4146.

FANCY stroller, $15; battery powered kiddy cars, car seats, genuine Gerry carrier, $5 ea.; pedal car, $2. Arlowe, 298-1770.

WORK WANTED

12 YEAR OLD, summer employment, babysitting, ironing, mother's helper, pet sitting, etc. Prevender, 299-5253.

HIGH School teen with experience is offering to do yard work. For more info. call Jeffers, 299-7020.

YARD jobs of any kind for a 15 yr. old young man. Barton, 265-8607.

WANTED

BABYSITTING this summer, afternoons, 12:30 to 4:30, with a membership for swimming at the Coronado Club, own transportation. Hatcher, 266-0932 after 7.

USED guitar, suitable for taking to camp. Bartel, 296-5270.

USED putter & irons for 13 yr. old girl. Chandler, 296-3323.

SWING set, in good condition. Tillerson, 293-8543.

19 YR. old working girl desires to share apartment with like female, need very soon. Schubeck, 266-2780.

ADULT life jacket, preferably Type III PFD style. Heidrich, 265-2860 after 5.

VIOLIN, 1/16 size, to rent or buy. Miyoshi, 298-0666.

SERVICE manual, Mercury outboard motor. Stromberg, 255-6131.

EQUALIZER hitch for camp trailer. Trollinger, 268-3414.

WALKING canes, fancy old silver, gold or ivory head canes & swager sticks, old hunting knives, pay cash. Smitha, 293-1177.

CEMENT mixer, 2-1/2 to 3-1/2 cu. ft., in good condition. Navratil, 293-5527.

FURNISHED apartment or house for a visiting professor & family for the period June 21-August 24. Cole, 299-9468.

1 PAIR OARS, 5 or 6 ft.; blender; mixer. Boes, 256-0166.

HOME for large male Afghan poodle, housebroken, well trained. Bice, 296-6303.

FOR RENT

3-BDR., 1-1/2 bath, den w/fireplace, heated garage, covered patio, for lease, $290/mo., available June 1. Seager, 299-4137.

2-BDR. unfurnished apartment, stove, refrigerator, carpeted & draped, off street parking, no pets, $150/mo. plus utilities. Palomas SE. Tucker, 255-5957 after 5.

REAL ESTATE

MOUNTAIN cabin near Tres Ritos on lot leased from Forest Service, 24 x 26' with 10 x 24' sleeping room upstairs, $13,000. Stuart, 299-9190.

4-BDR., 2-1/2 baths, den, formal dining, extra large heated garage, Glenwood Hills. lot bounds city limits & Gallegos Grant, $55,000. Zanner, 294-7613.

LOST AND FOUND

LOST — Man's Sandia watch, engraved; black fountain pen, Parker 61; silver 20 yr. award earring; lady's brown rim bi-focals; man's gray frame safety glasses. LOST AND FOUND, Bldg. 832, 4-3441.

FOUND — Man's silver wire rim bi-focal glasses; lady's multi-color scarf. LOST AND FOUND, Bldg. 832, 4-3441.

DEADLINE

for ads for May 30 issue is noon May 22.

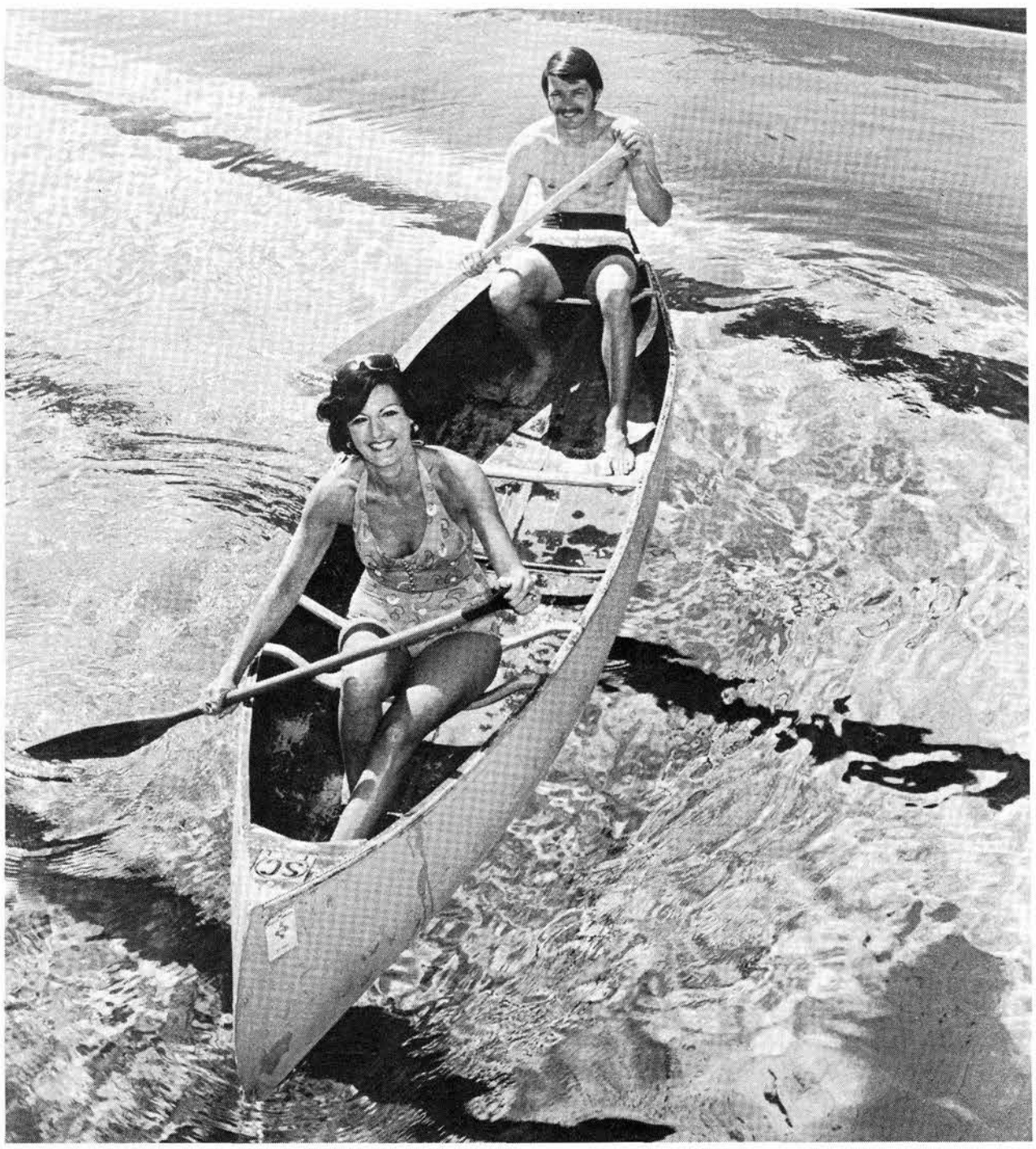
FRIDAY	SATURDAY
16 — HAPPY HOUR MINI-LUAU Adults $2.95 Under 12 1.95 *Glad Rags On Stage* NATURAL PERSUASION	17 — MEXICAN FIESTA Cocktails @ 6:30 Dinner @ 7 Show @ 7 Dancing @ 9
23 — HAPPY HOUR BARBEQUED RIBS Adults $2.75 Children 1.75 *Tom McCohen On Stage* SHALAKO	24 — POOL OPENING PARTY 11-6 TEEN DANCE 7:30-10:30 *Mbrs. 25¢ Guests*

A — deadline can live again. Which is lucky for Club families who didn't decide to see Switzerland in August early enough. The deadline for sign-ups is now June 1. And it's absolutely, positively your last chance for this travel bargain. As the poet said: "What is so rare as a day in Thun?" The answer: seven days.

BIRD — watchers, especially those of the teenage persuasion, have a tweet in store: it's Wren, and it's the band at the Teen Dance on the 24th. Tickets by parents beforehand, please.

IN — fashions for summer you'll see and applaud come Wednesday (the 21st) during lunch at the Club cafeteria. The summer and swimmer fashions from the Image can change yours. The models have a real flair because Flair has real models. They'll be there; you be there too.

THE — May-gala, Fiesta Mexicana, is tomorrow night. But, unless you already have tickets, it's whine-at-the-gate time. Next year, make reservations early.



ALL THE CANOES that's fit to print, plus a couple of very fit people: Phyllis Smith (who'll coordinate the Summer Fashions Show on the 21st) and Jim Buttz (1739). See a new swimsuit Wednesday, buy it on Thursday, lose weight on Friday, and wear it on Saturday at Pool Opening Day.

HAND — it to Luke Stravasnik for arranging a wondrously wet Pool Opening next Saturday: swimming (of course) and a truck (of Coors) and a new comestible — the Frank-an'-stein. (Pardon me, boy, is that the Transylvania ration?) Music from noon to three by the Dixie Kings. Free, free, free.

TICKLES — your taste-buds. That's what a Happy Hour menu does. Especially when it's a mini-luau like tonight's: fish tempura, chicken teriyaki, sweet and sour ribs, fresh fruit salads, and more. Or perhaps you lean toward barbequed ribs. Next Friday is your Friday: spare ribs, corn-on-the-cob, potato salad, plus trimings. Could you ask for more? (You'll get some if you do.)

MORE INFO — 265-6791.

Events Calendar

May 16 — Albuquerque Opera Theater: Verdi's "Falstaff," 8:15 p.m., Popejoy.
May 16-18 — Old Town Studio, "The Time of the Cuckoo," 242-4602.
May 17 — NM Mt. Club, Colorado Canyon in Manzanos, 7 miles, 8 a.m., Western Skies.
May 17 — NOW (National Organization for Women) State Convention, 9 a.m., Community Meeting Room, Alb. Public Library.
May 17 — KHFM (98.3), full score of "Irma La Douce," 6:40 p.m.
May 17-18 — May Crafts & Folk Festival, Sandia Frontier Town, off North 10-14, 10-6 p.m.
May 17-23 — Albuquerque Little Theater, All Faiths Fun Festival, 8 p.m., Fri. 7:30 p.m.
May 17-18 — Appaloosa Horse Show, Arena, State Fairgrounds.
May 18 — NM Mt. Club, Embudito Basin, 12 miles, 7:30 a.m., Blue Cross Bldg. & Indian School Rd.
May 19 — Albuquerque Lesser Symphony Orchestra: Casual Concert, U of A, Stage 11, 7:30 p.m.
May 22-23 — Rodey Theater, UNM: The Guthrie Theater (Minneapolis) presents "Everyman," 8:30 p.m.
May 23-24 — Fishback Dance Studio: Recital, 7:30 p.m., Popejoy.
May 24 — KHFM (98.3), full score of "Porgy & Bess," 6:40 p.m.
May 25 — NM Mt. Club, Cerro-Blanco-Bosque Peak, 8 miles, 8 a.m., Western Skies.
May 28 — Channel 5, "Stalin," 9 p.m.
May 29-31 — NM Charity Horse Show, Arena, State Fairgrounds.
Through June 1 — San Felipe de Neri Fiesta Celebration, Old Town Plaza.